

WHAT IS CLAIMED IS:

5                   1.     A method for editing graphics, text and mathematical expressions in a file comprising:

entering expressions into a file;

marking a root-expression and copying it to a clipboard;

pasting the clipboard content to other locations via straight-link;

10                  linking the pasted instance to the root-expression;

recording the locations of the root-expression and of the pasted instance into an ordered link-sequence.

2.     A method as in claim one, which further comprises the user selecting an expression and viewing the link-sequence associated with the expression.

15                  3.     A method as in claim two, which further comprises the user selecting a particular linked instance, from the link-sequence, and locating it for examination.

4.     A method for editing graphic, text and mathematical expressions in a file comprising:

entering expressions into a file;

20                  marking a root-expression and copying it to a clipboard;

pasting the clipboard content to other locations via one-way-link;

linking the pasted instance to the root-expression ;

recording the locations of the root-expression and of the pasted instance into an ordered link-sequence;

25                  and, when revising a particular instance of the expression, only the subsequent linked instances are automatically updated and the corresponding results, where mathematical expressions are used, are automatically re-computed, saved and displayed.

- 5                    5. A method for editing graphic, text and mathematical expressions in a file  
comprising:
- entering expressions into a file;
- marking a root-expression and copying it to a clipboard;
- 10                   pasting the clipboard content to other locations via two-way-link;
- linking the pasted instance to the root-expression;
- recording the locations of the root-expression and of the pasted instance into a  
link-ring;
- and, when revising any one particular instance of the expression in the link-  
ring, every linked instance is automatically updated and the corresponding results, where  
15                   mathematical expressions are used, are automatically re-computed, saved and displayed.
6. A method for editing graphic, text and mathematical expressions in a file  
comprising:
- entering expressions into a file;
- labeling an expression;
- 20                   referring to the labeled expression in other expressions via the label;
- linking the labeled expression to the expression that refers to it;
- recording the locations of the labeled expression and of the referring  
expression into an ordered link-sequence.
7. A method as in claim 6, which further comprises the user selecting an  
25                   expression and viewing the link-sequence associated with it.
8. A method as in claim 7, which further comprises the user selecting a  
particular linked instance, from the link-sequence, and locating it for examination.
9. A method as in claim 6, which further comprises a method for revising an  
expression and automatically updating all linked expressions and their corresponding results,

5     where mathematical expressions are used, and automatically re-computing, saving and displaying, each linked instance.

10. A method for editing graphic, text and mathematical expressions in a file comprising:

entering expressions into a file;

10     assigning a variable-name to an expression;

referring to the expression in other expressions via the variable-name;

linking the variable-named expression to the expression that refers to it;

recording the locations of the named expression and the referring expression into an ordered link-sequence.

15     11. A method as in claim 10, which further comprises the user selecting an expression and viewing the link-sequence associated with it.

12. A method as in claim 11, which further comprises the user selecting a particular linked instance, from the link-sequence, and locating it for examination.

20     13. A method as in claim 10, which further comprises a method for revising an expression and automatically updating all linked instances, and their corresponding results, where mathematical expressions are used, and automatically re-computing, saving and displaying, all linked instances.

14. A low-cost, portable device for creating and editing graphic, text, mathematical expressions comprising:

25     means for entering the expressions into a file accessible to the device;

means for storing the expressions;

means for displaying the storage contents;

means for processing the expressions;

means for storing, accessing and managing one or more files;

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and, the improvements comprising:

means for revising the expressions in a well-developed editor;

and, means for interactively and automatically updating the storage and displaying the re-computed results, for the mathematical expressions, post-revision.

10 15. A device as in claim 14, which further comprises means for interactively and automatically updating the result of an expression, affected by a revision to a different expression, the storage and displaying modifications to all expressions and their corresponding re-computed results.

16. A device as in claim 14, which further comprises means for linking expressions via hyperlink, or straight-link, or paste-link, or a label, or a variable-name.

15 17. A device as in claim 16, which further comprises means for interactively and automatically updating the result of an expression, affected by a revision to a different expression, the storage and displaying modifications to all expressions and their corresponding re-computed results.

20 18. A low-cost, portable device for creating and editing graphic, text, mathematical expressions comprising:

means for entering the expressions into a file accessible to the device;

means for storing the expressions;

means for displaying the storage contents;

means for processing the expressions;

25 means for storing, accessing and managing one or more files;

and, the improvements comprising:

means for easily editing the expressions, including long text narratives, in a well-developed editor;

means for linking the expressions;

5 means for recording the links;

means for automatically updating, some or all, the linked instances when one particular instance is revised;

10 and, means for automatically and interactively updating the storage contents and displaying the new results, for the mathematical expressions, and executing user-provided instructions.

19. A low-cost, portable device for creating and editing graphic, text, mathematical expressions comprising:

means for entering the expressions into a file accessible to the device;

means for storing the expressions;

15 means for displaying the storage contents;

means for processing the expressions;

and, the improvements comprising:

means for easily editing the expressions, including long text narratives, in a well-developed editor;

20 means for linking the expressions;

means for recording the links;

means for automatically updating, some or all, the linked instances when one particular instance is revised;

25 and, means for updating the storage contents and displaying the new results, for the mathematical expressions, and executing user-provided instructions in batch mode.

20. A device as in claim 18, in which the links are recorded into either an ordered link-sequence or into a link-ring.

21. A device as in claim 14, where expressions can be entered by receiving from another device.

5 22. A device as in claim 14, where expressions can be entered via a full-sized QWERTY keypad for quick and easy typing.

23. A device as in claim 14, which further comprises a means for typing text in between mathematical and graphic expressions.

10 24. A device as in claim 18, which further comprises a means for locating various linked expressions for examination.

25. A device as in claim 14, which further comprises:

means for parsing and identifying errors and generating error messages, with or without suggestions, on the display means;

means for prompting the user for input to resolve the error;

15 means for accepting the input;

and, means for automatically updating all expressions affected by the user-provided input, executing the user instructions, updating the storage, and, displaying the modified expressions and the corresponding re-computed results for the mathematical expressions.

20 26. A device as in claim 14, which further comprises means for the user to supply a result of a mathematical expression whereby the processor compares it to the computed result and responds with a 'Correct' / 'Incorrect' response instead of displaying the computed result.